

REMARKS

Claims 6 and 7 are pending.

At pages 2-4 of the Action, claims 6 and 7 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nozaki et al (6,013,416).

Applicants submit that this rejection should be withdrawn because Nozaki et al '416 does not disclose or render obvious the positive photoresist composition of the present invention.

As recited in independent claim 6, the present invention relates to a positive photoresist composition. The resist composition comprises a resin which has an ester group represented by formula (I-2) as shown in the claim in its molecule and is decomposed by the action of an acid to increase the solubility of the resin in an alkali solution. The composition also includes a photoacid generator (PAG). As recited in claim 6, the resin further contains (1) repeating structure units each having an alicyclic hydrocarbon moiety and (2) repeating structure units each having a group which is decomposed by action of an acid to increase solubility of the resin in an alkali developing solution.

The Examiner states that Nozaki et al discloses at column 12, lines 24-31, that the polymer may contain two or more protected alkali-soluble groups, in combination, such that the claimed lactone monomer, an adamantyl acrylate monomer, and a third alkali-soluble protected group can be used to form a terpolymer as taught in line 12 of column 12 of Nozaki et al. Per the Examiner, Applicants' amended claims are open and broad as to the third repeating unit (2) which is a group which is decomposed by the action of an acid. The Examiner asserts that the third group is clearly taught and suggested in the art of Nozaki et al.

The Examiner reasons that it would have been prima facie obvious to one of ordinary skill in the art of chemically amplified photoresist compositions to add a third alkali-soluble protected group as suggested by Nozaki et al “to any of the exemplified photoresist composition[s] with a copolymer” to give a terpolymer and reasonably expect the same or similar results as disclosed for a photoresist composition that possesses high sensitivity, and excellent dry etching resistance without swelling.

The Examiner’s statement of the rejection should be read against the background of the previous Office Action, in which the Examiner rejected the claims based on Example 66 of Nozaki et al. In the present Action, the Examiner essentially is suggesting that it would have been obvious to modify the copolymer of Example 66 of Nozaki et al (or any of Nozaki et al’s other exemplified copolymers) to be a terpolymer including as the third repeating unit, a third alkali-soluble protected group.

Applicants respectfully traverse. The present invention provides unexpectedly superior results which rebut any prima facie case of obviousness which may have been established, and confirm the patentability of the present invention over Nozaki et al.

In this regard, the superior effects of the invention as a result of using the repeating structure unit (2) are shown by a comparison between Example 8 (using Resin D2) and Example 5 (using Resin A2). The difference between the Resins D2 and A2 is only in the presence or absence of the t-butyl methacrylate corresponding to the repeating structure unit (2). See Synthesis Examples 16 and 19 at pages 147 and 149, respectively. The Examiner will kindly note that since this is the only difference between the two examples, Example 5 (which is outside

the scope of claims 6 and 7) is even closer to the present invention than Example 66 of Nozaki et al.

From a comparison of the results of Example 8 (invention) and Example 5 (comparison), it is apparent that the resist composition of Example 8 having the repeating structure unit (2) has a more excellent effect (particularly, the difference in sensitivity is larger) than Example 5. See Table 2 at page 156 of the present specification. The present claims are directed to a preferred embodiment having a greater effect, compared to the original claims, and the superior results or effects from the inclusion of the repeating structure unit (2) are seen in the Table 2 results. These unexpectedly superior results rebut any prima facie case of obviousness and support the patentability of the present invention over Nozaki et al.

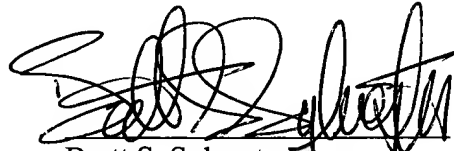
In view of the above, reconsideration and withdrawal of the § 103(a) rejection of claims 6 and 7 based on Nozaki et al '416 are respectfully requested.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Response Under 37 C.F.R. § 1.111
U.S. Appln. No.: 09/729,953

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brett S. Sylvester", written over a horizontal line.

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